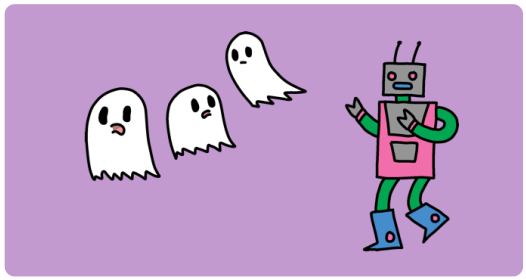
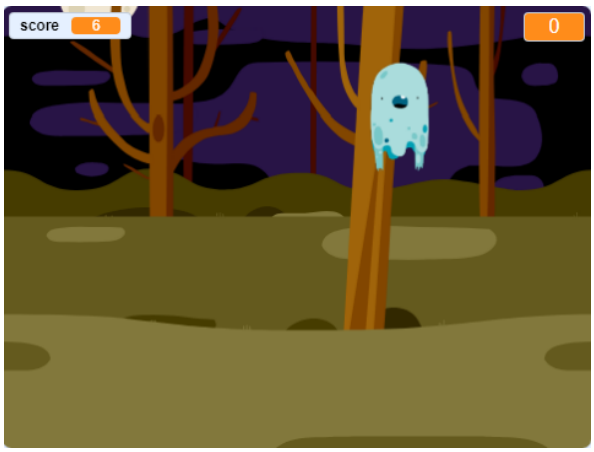
Ghostbusters

Make a game about catching ghosts!



Step 1 Introduction

You are going to make a ghost-catching game!



What you will need

Hardware

- A computer

Software

- Scratch 3 (either **online** (http://rpf.io/scratchon) or **offline** (http://rpf.io/scratchoff))

What you will learn

- Understand the need for pauses between actions within loops
- Use code to generate random numbers in Scratch
- Add a variable to store a game score in Scratch

Additional notes for educators

You can find the **completed project here** (http://rpf.io/p/en/ghostbusters-get).

Step 2 Animate a ghost

Open a new empty Scratch project.

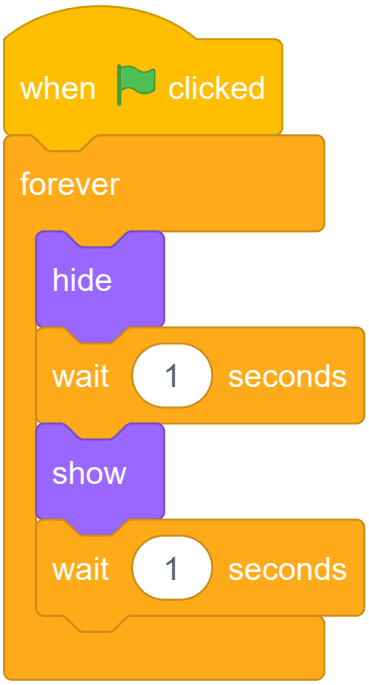
Add in a new ghost sprite and a suitable Stage backdrop.



Add code to your ghost sprite so that the ghost appears and disappears forever when the green flag is clicked.

This is what your code should look like:





Test and save your project.

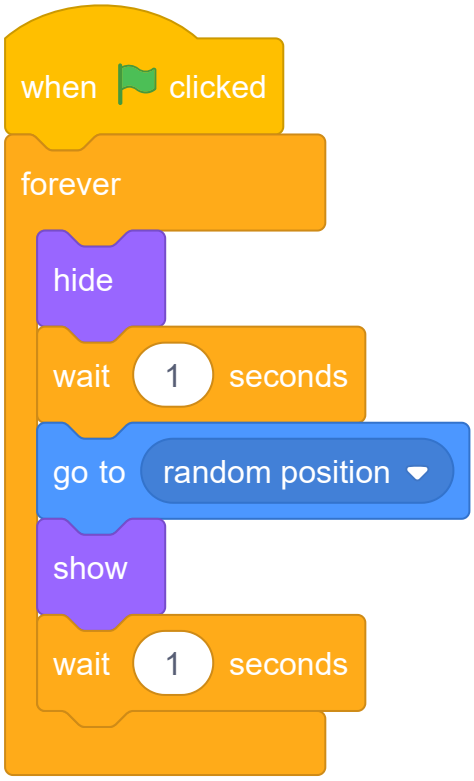
Step 3 Random ghosts

Your ghost is really easy to catch at the moment, because it doesn't move!

Can you add code to your ghost so that, instead of staying in the same position, the ghost appears at random positions on the Stage?

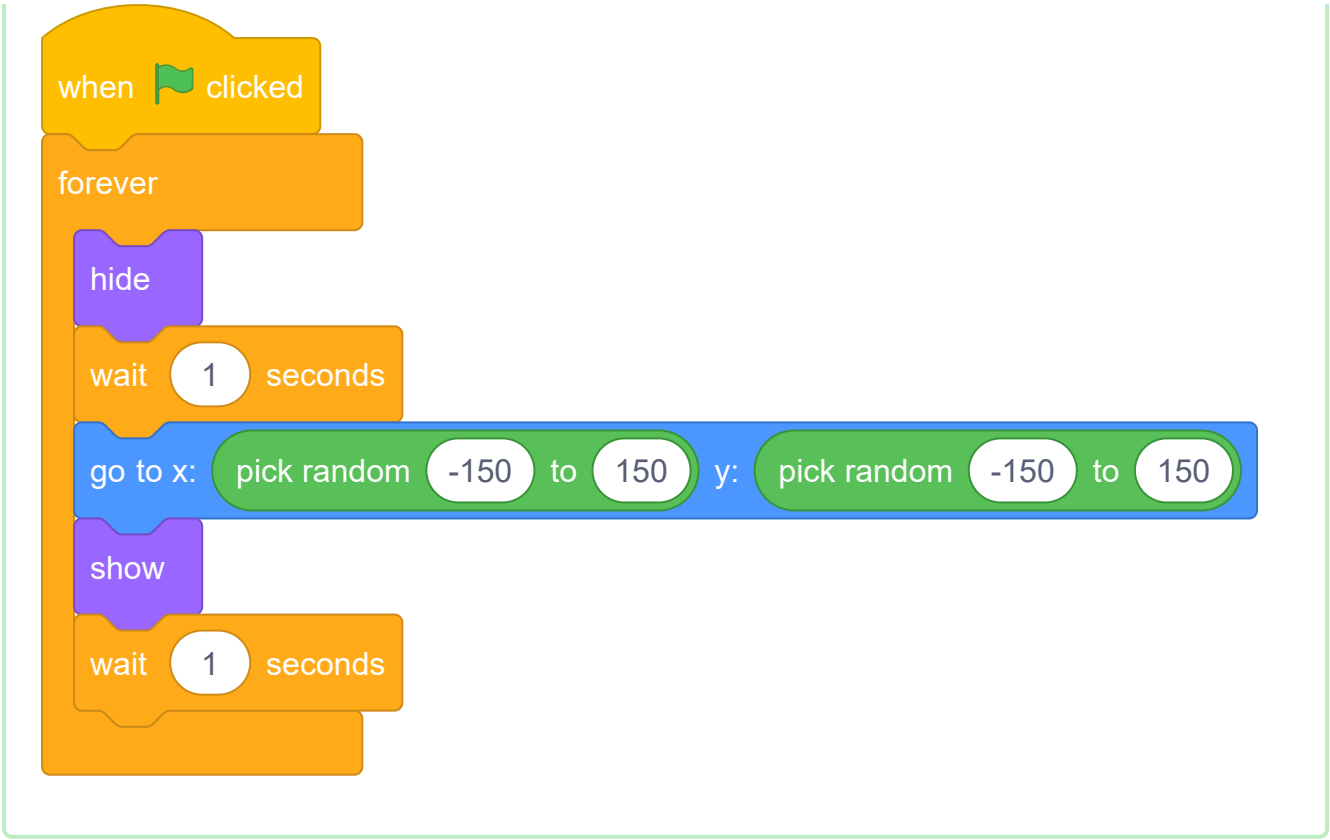
Your code could look either like this:





Or it could look like this:




when clicked
forever
hide
wait 1 seconds
go to x: pick random -150 to 150 y: pick random -150 to 150
show
wait 1 seconds

Challenge!

Challenge: more randomness

Can you add code to your ghost sprite to make the ghost `wait` a random amount of time while it is hidden?

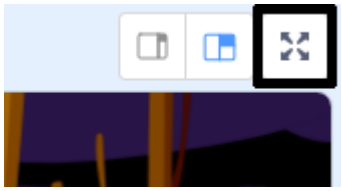
Can you use the `set size` block to make your ghost a randomly larger or smaller each time it appears?

Step 4 Code for catching ghosts

Now you're going to add code to your game so that the player can catch ghosts!

Can you make your ghost disappear when it's been caught? The player should be able to click ghosts to catch them.

If you test your game and find catching ghosts difficult, you can play the game in full-screen mode by clicking on this button:



Your code should look like this:





Challenge!

Challenge: add a sound

Can you add code to your ghost so that the ghost makes a sound when it's caught?

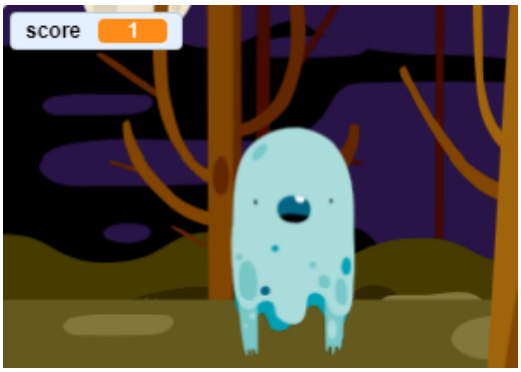
Step 5 Add a score

Now you're going to make your game more interesting by keeping score!

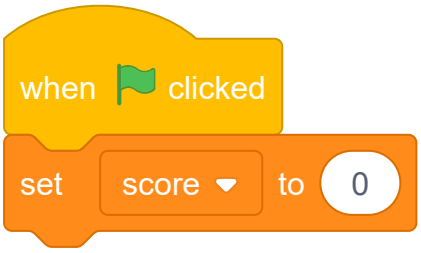
Create a new variable called `score`.

Can you keep track of the player's score? Players should score points when they click on ghosts to catch them.

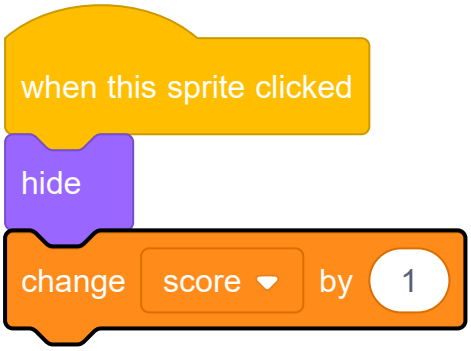
Each time a player clicks on a ghost, their score should increase.











Step 6 Add a timer

Now you're going to add a timer so that the player only has ten seconds to catch as many ghosts as possible.

Create a new variable called 'time'.

Can you add a timer to your Stage to give your player only 10 seconds to catch ghosts?

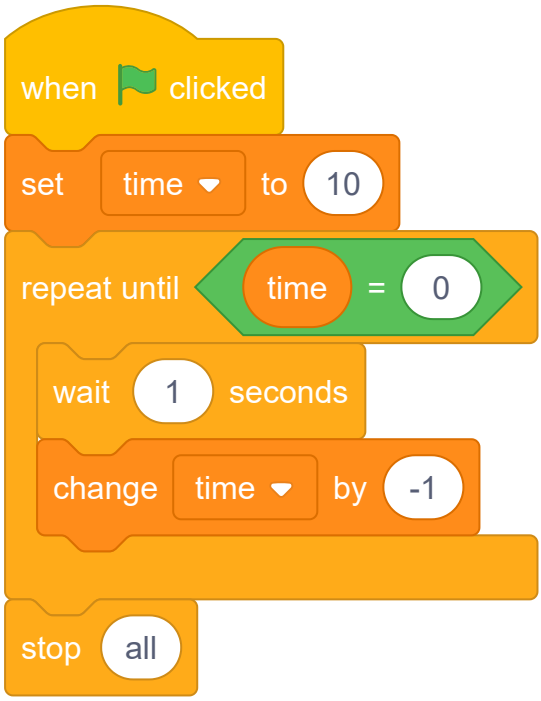
Your timer should:

- Start at 10 seconds
- Count down every second

The game should stop when the timer gets to 0.

Here is the code you should add to create a timer:





Ask a friend to test your game. How many points can they score?

If your game is too easy, you can:

- Give the player less time

- Make the ghosts appear less often
- Make the ghosts smaller

Change and test your game a few times until you're happy with its level of difficulty.

Challenge!

Challenge: more sprites

Can you add other sprites to your game?



You need to think about some things for each sprites you want to add:

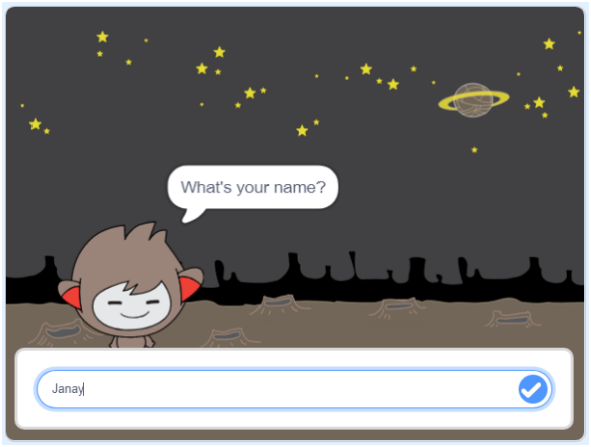
- How big should the sprite be?
- Should it appear more or less often than the ghost sprite?
- What does it look/sound like when it gets caught?
- How many points does the player win (or lose) for catching the sprite?

If you need help, you can back through to the instructions in the previous steps, or ask a friend!

Step 7 What next?

Well done on completing the Ghostbusters project! Do you want to create something a little more challenging?

Try out the **Chatbot** (https://projects.raspberrypi.org/en/projects/chatbot?utm_source=pathway&utm_medium=whatnext&utm_campaign=projects) project.



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View project & license on GitHub (https://github.com/RaspberryPiLearning/ghostbusters)